

Appendix F: Recreation and Tourism (Chapter 7)

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Trends Data

Additional data is available that supports conclusions presented in Chapter 9 regarding Current Status and Trends on Recreation and Tourism in the Delta. That data is summarized below.

CA DMV records

Trends in recreation activity levels in the Delta over the last 20 years can be found in boat registrations within the Primary Market Area and also in recreation use surveys. *The 2002 Sacramento-San Joaquin Delta Boating Needs Assessment*¹ discussed trends in boating in California. Overall, it appeared that boat registration from 1980-2000 tended to be growing with overall population growth. Within this overall trend, PWC registration was rising much faster than population growth, with other types of smaller boats increasing at a much lower rate and large boats increasing at a slightly higher rate. This trend in registration matches the trends in marinas reported in the same study, as many marinas were upgrading smaller slips to larger slips to match demand. Since 2000, the general trend in boat registration has been steady statewide and flat to slightly declining within the Primary and Secondary Market Areas. Table F1 lists boating registration over the past 10 years according to the Department of Motor Vehicles (DMV) registration data. Although the number of boat registrations varies by year, the overall trend since 2000, including personal watercraft, is generally flat to declining.

Table F1 Total Vessel Registrations by Year within the Delta Primary Market Area and Statewide

	Primary Market Area	Secondary Market Area	Statewide	Personal Watercraft ⁽¹⁾
2000	252,673	106,868	902,447	169,373
2001	266,517	114,321	961,877	180,397
2002	249,913	109,510	893,550	157,090
2003	265,295	116,979	959,849	183,266
2004	243,869	109,987	892,594	158,866
2005	257,857	117,954	956,466	185,115
2006	239,824	111,894	896,794	161,417
2007	252,855	119,461	955,730	170,421
2008	226,769	108,174	855,290	
2009	237,229	113,687	900,345	

Source: California Department of Boating and Waterways, 2010

(1) Personal Watercraft data is only available through 2007

CA DFG Hunting/Fishing Licenses

In 2009, approximately 1.2 million resident sport fishing licenses statewide were issued. That number has declined since 1997. As there are no direct data on fishing within the Delta, it has been estimated. In a 1997 survey, State Parks estimated that 23 percent of all anglers in California fished in the Delta. However, beginning in 2004, DFG required all anglers who fished within the tidal influences of the Bay-Delta and downstream of dams within the watershed to purchase a Bay-Delta Sport Fishing Enhancement Stamp. Table F2 lists those numbers. As both sets of numbers are estimates, the general magnitude is probably correct (i.e., approximately 275,000 anglers recreated in the Delta in 2009). Using this number, combined with estimates from both USFWS and State Parks that anglers fish, on average, 12 days per year, results in approximately 3.3 million fishing activity days in the Delta in 2010.

¹ DBW 2002, pp. 6-5 - 6-14

Table F2 Total Resident Sport Fishing Licenses by Year Statewide with Estimates on Delta Use

Year	Statewide	Delta ⁽¹⁾	Bay-Delta Sport Fishing Enhancement Stamp
1997	1,384,963	318,541	
1998	1,287,668	296,164	
1999	1,272,284	292,625	
2000	1,265,039	290,959	
2001	1,225,072	281,767	
2002	1,175,618	270,392	
2003	1,124,438	258,621	
2004	1,268,606	291,779	324,915
2005	1,244,987	286,347	308,719
2006	1,256,785	289,061	297,377
2007	1,283,506	295,206	311,405
2008	1,203,670	276,844	283,332
2009	1,179,312	271,242	284,641

Source: California Department of Fish and Game, 2010

(1) It is estimated that approximately 23% of all statewide anglers recreate in the Delta

The total number of hunting licenses issued in California over the past 10 years has increased, though at less than 10 percent. There are no estimates for how these numbers related to in-Delta hunting.

Table F3 Total Hunting Licenses by Year Statewide

Year	Game Bird Hunting Licenses	Total Statewide Hunting Licenses
2000	945,611	1,564,806
2001	960,224	1,588,541
2002	903,670	1,536,387
2003	950,701	1,565,526
2004	974,580	1,596,861
2005	1,000,639	1,628,672
2006	1,025,345	1,659,349
2007	1,091,351	1,721,937
2008	1,041,031	1,674,004
2009	1,056,556	1,683,445

Source: California Department of Fish and Game, 2010

USDA Agricultural Tourism

The U.S. Department of Agriculture, National Agricultural Statistics Service regularly publishes a Census of Agriculture. The most recent was published in 2007. Two of the categories for which they collect data are directly relevant to this topic area – income from agri-tourism and recreational services, and value of agricultural products sold directly to individuals for human consumption.

Income from agri-tourism and recreational services includes income generated from hunting, fishing, wine tours, hay rides, etc. In 2007, there were 79 farms in the six Delta counties that reported income from this source, with a total value of almost \$4 million. The number of farms has approximately doubled since 2002, with income up more than ten-fold. Average income was \$50,000 per farm, up \$42,000 since 2002. Per-county averages ranged from \$7,000 in Alameda County to \$134,000 in Solano County.

Table F4 Income from Farm Related Sources: 2007 and 2002**Agri-tourism and recreational services**

		County						Total
		Alameda	Contra Costa	Sacramento	San Joaquin	Solano	Yolo	All Delta Counties
Number of Farms	2002	4	7	9	8	3	8	39
	2007	4	13	18	11	13	20	79
	Change	-	6	9	3	10	12	40
Income, \$1,000	2002	undisclosed	\$ 135	undisclosed	\$ 42	\$ 100	\$ 55	\$ 332
	2007	\$ 29	\$ 487	\$ 435	\$ 913	\$ 1,742	\$ 361	\$ 3,967
	Change	-	\$ 352	-	\$ 871	\$ 1,642	\$ 306	\$ 3,635
Average Income Per Farm, \$1000	2002	-	\$ 19	-	\$ 5	\$ 33	\$ 7	\$ 9
	2007	\$ 7	\$ 37	\$ 24	\$ 83	\$ 134	\$ 18	\$ 50
	Change	-	\$ 18	-	\$ 78	\$ 101	\$ 11	\$ 42

Source: USDA, National Agricultural Statistics Service, 2007 Census of Agriculture - County Data, California

The value of agricultural products sold directly to individuals for human consumption includes the market value of products sold at roadside stands, farmers' markets, pick-your-own sites, etc. In 2007 there were 664 farms in the six Delta counties which reported income from this source, with a market value of over \$25 million. The number of farms has increased in Alameda, San Joaquin, Solano, and Yolo counties since 2002, but has declined in Contra Costa and Sacramento counties. Also, value has increased in Alameda, Contra Costa, Sacramento, and San Joaquin counties, while decreasing in Solano and Yolo counties (in spite of an increase in number of farms). Over all Delta counties, the number of farms has increased by 3.5 percent while the reported market value increased by more than 11 percent. The average market value per farm was \$38,000 in 2007, up slightly from \$35,000 in 2002.

Table F5 Market Value of Agricultural Products Sold Including Direct Sales: 2007 and 2002**Value of agricultural products sold directly to individuals for human consumption**

		County						Total
		Alameda	Contra Costa	Sacramento	San Joaquin	Solano	Yolo	All Delta Counties
Number of Farms	2002	23	79	177	200	70	92	641
	2007	29	76	143	232	89	95	664
	Change	6	(3)	(34)	32	19	3	23
Value, \$1,000	2002	\$ 168	\$ 1,163	\$ 2,054	\$ 8,165	\$ 2,610	\$ 8,308	\$ 22,468
	2007	\$ 322	\$ 1,776	\$ 3,497	\$ 11,837	\$ 1,337	\$ 6,324	\$ 25,093
	Change	\$ 154	\$ 613	\$ 1,443	\$ 3,672	\$(1,273)	\$(1,984)	\$ 2,625
Average Value Per Farm, \$1,000	2002	\$ 7	\$ 15	\$ 12	\$ 41	\$ 37	\$ 90	\$ 35
	2007	\$ 11	\$ 23	\$ 24	\$ 51	\$ 15	\$ 67	\$ 38
	Change	\$ 4	\$ 9	\$ 13	\$ 10	\$(22)	\$(24)	\$ 3

Source: USDA, National Agricultural Statistics Service, 2007 Census of Agriculture - County Data, California

The USDA data is only broken down by county, so it is unknown how many farms only in the legal Delta have agri-tourism or recreation services, or have direct sale operations. However,

this data does seem to indicate that both are growing as farmers look to diversify their income streams.

United States Forest Service

As part of their *National Survey on Recreation and the Environment*, USDA Forest Service, Southern Research Station, provides results on surveys of people participating in outdoor recreation within the Local Area of El Dorado National Forest. This local area includes 27 counties surrounding El Dorado National Forest and overlaps somewhat with the Primary and Secondary Market Area. Participation rates for a sample of specific recreation activities that occur in the Delta are listed in Table F6.

Table F6 Summary of National Survey on Recreation and the Environment (2000-2004)
Participation Rates for Selected Activities in El Dorado National Forest Local Area

Activity Type	Participation Rate
Walking for pleasure	86%
View/photograph natural scenery	67%
Visit nature centers	60%
Sightseeing	59%
Picnicking	58%
Driving for pleasure	57%
Visit historic sites	52%
Swimming in lakes, streams	49%
Bicycling (any type)	45%
Day hiking	44%
Developed camping	41%
Fishing – freshwater	28%
Motor boating	24%
Personal watercraft	12%
Sailing	7%
Hunting	7%

Statewide Tourism Data

The California Travel and Tourism Commission (CTTC) also maintains data and survey numbers on tourism and the economic impact of tourism within the State of California. Overall touring/sightseeing represented 15 percent of all visits to California in 2009, while both nature and culture visits each represented 13 percent.² Detailed data based on visitor surveys reflected specific primary activities is presented in Table F7.

² D.K. Shifflet & Associates, Ltd., California 2009 Data Tables Public Version, prepared for the California Travel and Tourism Commission, June 2010. Pages 142-149. Can be downloaded from <http://tourism.visitcalifornia.com/media/uploads/files/editor/Research/2009%20California%20Data%20Report%20-%20Public%20Version.pdf>

Table F7 Summary of Primary Visitor Activities to California

California Year-End 2009 Data Tables – Public Version – Primary Activities (Stays Based)

Activity Type	Participation Rate
Touring/Sightseeing	13%
Beach/Waterfront	6%
Festival/Craft Fair	4%
Museum, Art Exhibit	4%
Visit Historic Site	4%
Park: National, State	3%
Hike, Bike	3%
Camping	2%
Nature/Culture: Observe and Conserve Eco-Travel	2%
Hunt/Fish	1%
Other Adventure Sports	1%
Boat/Sail	1%

Visitation Estimates Based on Demand Estimates

Visitor estimations can be derived from population numbers, using estimates of demand and participation rates. The detailed model for demand-based participation is presented here. In summary, first, participation rates for various Delta activities were determined. Following that, a determination of what percentage of the market the Delta will capture versus other recreation opportunity areas available to the Market Area is made. By combining all of these numbers into a model with population numbers, an estimate of visitation based on demand for recreation activities will result.

Tables above presented estimated participation rates for various activities based on surveys from State Parks, USFS, and USFWS. Based on these surveys, ranges for popular recreation activities in the Delta have been estimated.

Table F8 Ranges of Participation Rates for Selected Activities Statewide in California

Activity Type	Low Range Participation Rate	Mid Range Participation Rate	High Range Participation Rate
Motor boating, personal watercraft	12%	21%	29%
Fishing – freshwater	18%	32%	45%
Sail boating	3%	7%	10%
Paddle sports	15%	19%	22%
Camping in developed sites with facilities	31%	40%	48%
RV/trailer camping with hookups	8%	12%	16%
Hunting	3%	5%	7%
Wildlife viewing, bird watching, viewing natural scenery	42%	57%	72%
Outdoor photography	32%	39%	45%
Picnicking in picnic areas	56%	68%	80%
Swimming in freshwater lakes, rivers, and/or streams	31%	50%	68%
Day hiking on trails	41%	52%	62%
Bicycling on paved surfaces	35%	40%	45%
Bicycling on unpaved surfaces and trails	9%	18%	27%
Driving for pleasure, sightseeing, driving through natural scenery	60%	74%	87%
Visiting historic or cultural sites	54%	64%	74%
Attending outdoor cultural events	43%	53%	63%
Visiting outdoor nature museums, zoos, gardens, or arboretums	51%	60%	68%

Next to be determined: what percentage of this recreation demand the Delta recreation area will capture, as compared to other competitive recreation areas as described above. Estimates for those percentages, based on professional judgment combined with knowledge of existing demand on some activities, are listed in Table F9.

Table F9 Delta Recreation Capture Rates within the Market Area

Activity Type	Percentage of all Recreation Activity
Motor boating, personal watercraft	30.00%
Fishing - freshwater	20.00%
Sail boating	10.00%
Paddle sports	5.00%
Camping in developed sites with facilities	0.25%
RV/trailer camping with hookups	0.25%
Hunting	15.00%
Wildlife viewing, bird watching, viewing natural scenery	0.50%
Outdoor photography	0.15%
Picnicking in picnic areas	0.25%
Swimming in freshwater lakes, rivers, and/or streams	1.00%
Day hiking on trails	0.10%
Bicycling on paved surfaces	0.25%
Bicycling on unpaved surfaces and trails	0.10%
Driving for pleasure, sightseeing, driving through natural scenery	2.00%
Visiting historic or cultural sites	0.50%
Attending outdoor cultural events	2.00%
Visiting outdoor nature museums, zoos, gardens, or arboretums	0.50%

If low- and high-range participation rates are taken and multiplied by population numbers in the Primary and Secondary Market Area (estimated at approximately 12 million) by average annual days of participation from the State Parks survey, and then by capture rates for the Delta, recreation demand for each activity (activity days per year) can be estimated within the entire market area. By dividing those numbers by the average number of activities per person per day (estimated at 3.3) to eliminate duplicate counting, estimates of visitor days result. Those numbers are presented in Table F10.

Table F10 Ranges of Recreation Demand for Market Area (Visitor Days Per Year) for selected resources and right-of-way/tourism activities (in millions) in 2010

Activity Type	Low Range Visitor Days per Year	Mid Range Visitor Days per Year	High Range Visitor Days per Year
Motor boating, personal watercraft	1.14	1.96	2.77
Fishing - freshwater	1.68	2.95	4.21
Sail boating	0.16	0.34	0.53
Paddle sports	0.13	0.16	0.19
Camping in developed sites with facilities	0.02	0.02	0.03
RV/trailer camping with hookups	0.01	0.01	0.01
Hunting	0.27	0.45	0.63
Wildlife viewing, bird watching, viewing natural scenery	0.21	0.28	0.35
Outdoor photography	0.04	0.05	0.06
Picnicking in picnic areas	0.04	0.05	0.05
Swimming in freshwater lakes, rivers, and/or streams	0.12	0.19	0.26
Day hiking on trails	0.02	0.03	0.04
Bicycling on paved surfaces	0.12	0.14	0.16
Bicycling on unpaved surfaces and trails	0.01	0.01	0.02
Driving for pleasure, sightseeing, driving through natural scenery	0.96	1.18	1.39
Visiting historic or cultural sites	0.08	0.09	0.11
Attending outdoor cultural events	0.22	0.28	0.33
Visiting outdoor nature museums, zoos, gardens, or arboretums	0.06	0.07	0.08
Totals	5.29	8.26	11.22

These numbers represent the recreation demand from the Market Area, which had previously been estimated to be approximately 85 percent of the overall demand for recreation in the Delta. Thus, in order to present a full picture of Recreation Demand, all numbers were adjusted from 85 percent, up to 100 percent (See Table F11).

Table F11 Ranges of Recreation Demand (Visitor Days Per Year) for selected resources and right-of-way/tourism activities (in millions) in 2010

Activity Type	Low Range Visitor Days per Year	Mid Range Visitor Days per Year	High Range Visitor Days per Year
Motor boating, personal watercraft	1.35	2.30	3.26
Fishing - freshwater	1.98	3.47	4.95
Sail boating	0.19	0.40	0.62
Paddle sports	0.15	0.19	0.22
Camping in developed sites with facilities	0.02	0.03	0.04
RV/trailer camping with hookups	0.01	0.01	0.02
Hunting	0.32	0.53	0.75
Wildlife viewing, bird watching, viewing natural scenery	0.24	0.33	0.42
Outdoor photography	0.05	0.06	0.07
Picnicking in picnic areas	0.04	0.05	0.06
Swimming in freshwater lakes, rivers, and/or streams	0.14	0.22	0.30
Day hiking on trails	0.03	0.04	0.04
Bicycling on paved surfaces	0.14	0.16	0.18
Bicycling on unpaved surfaces and trails	0.01	0.02	0.02
Driving for pleasure, sightseeing, driving through natural scenery	1.13	1.38	1.64
Visiting historic or cultural sites	0.09	0.11	0.13
Attending outdoor cultural events	0.26	0.32	0.38
Visiting outdoor nature museums, zoos, gardens, or arboretums	0.07	0.08	0.09
Totals	6.23	9.71	13.20

Visitor Days were then aggregated by primary activity for economic modeling into categories of boating, fishing, and camping; hunting; other resource-related; and right-of-way and tourism. Other resource-related includes categories of wildlife viewing, bird watching, viewing natural scenery; outdoor photography; picnicking in picnic areas; and swimming in freshwater lakes, rivers and/or streams. Right-of-way and tourism includes the categories of day hiking on trails; bicycling on paved surfaces; bicycling on unpaved surfaces and trails; driving for pleasure, sightseeing, driving through natural scenery; visiting historic or cultural sites; attending outdoor cultural events; and visiting outdoor nature museums, zoos, gardens, or arboretums. A summary of visitor days by primary activity is listed in Table F12.

Table F12 Summary of Visitor Days Per Year by Primary Activity (in millions) in 2010

Activity Type	Low Range Visitor Days per Year	Mid Range Visitor Days per Year	High Range Visitor Days per Year
Boating, Fishing, and Camping	3.70	6.40	9.10
Hunting	0.32	0.53	0.75
Other Resource-Related	0.48	0.67	0.86
ROW & Tourism	1.73	2.11	2.49
Total Visitor Days	6.23	9.71	13.20